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09/695,059	10/25/2000	Christopher K. Thomas	12026-2	1673

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EXAMINER

ALPERT, JAMES M

ART UNIT

PAPER NUMBER

3624

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/695,059

Applicant(s)

THOMAS, CHRISTOPHER K.

Examiner

James Alpert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

EA

HC

### **DETAILED ACTION**

This action is in response to the amendments and remarks submitted on 01/28/2005. The following actions have been taken in respect to the prosecution of the application:

1. Amendments to Claims 1-10,14-15,16-21 have been entered.
2. The rejections of Claims 1-21 under 35 U.S.C. §101 because the claims as presented we're not directed toward the technological arts are withdrawn. Applicant's amendments have overcome these rejections.
3. The rejections of Claims 1-21 under 35 U.S.C. §101 because the claims as presented fail to produce a produce a "useful, concrete and tangible" result, in that generated flags may or may not affect a security transaction are hereby withdrawn.
4. The rejections of Claims 1-21 under 35 U.S.C. §103 as being unpatentable over Bay, U.S. Pat. #534745 in further view of Li, U.S. Pat. #6453303 are hereby withdrawn.

Objections and new grounds of rejection are as stated below:

#### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. Claim 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bay, U.S. Patent #534745, in view of Lupien, U.S Patent #5101353.

**With regard to Claims 1 and 2**, Bay teaches a method of for identifying aberrant behavior of a financial instrument comprising:

- (a-c) providing a computer for retrieving and recording the closing price, volume and number of transactions conducted for the financial instrument in a selected trading session,  
(Figure #1, Col. 1 lines 47-57, Col. 4 lines 25-35)
- (d) identifying a plurality of time periods, each of said time periods terminating with the trading session of the financial instrument immediately preceding the selected trading session;  
(Col. 2 lines 5-18)

Bay teaches that measurements of the number of trades and volume of shares traded as equivalent at (Col. 1, lines 55-60) so the Examiner interprets the applicant's claims broadly so that measurement of volume can also encompass a measurement of number of shares traded. Thus Bay teaches:

- (e) calculating the average of volume, number of transactions, and closing price during each of the time periods;  
(Col. 3 lines 24-27, Figure #1)

Bay does not expressly teach a calculation of mean closing price in a similar manner as volume and number of trades, however price is obviously one of the important statistical measurements in analyzing stock performance. It would have therefore been obvious to modify Bay to include price calculations. The motivations is because price is an indicator of whether a stock is like to rise or fall in price along with volume, which is disclosed in Bay at (Col. 1 lines 16-18). Bay also does not disclose the use of a standard deviation measurement. Taking a standard deviation is an old and well-known practice when conducting statistical analyses. Lupien actually teaches the idea of measuring standard deviation as it relates to securities price fluctuations. See (Col. 9 lines 55-61). A

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standard deviation analysis is implied in the comparison charts of Bay, but it would have been an obvious modification to Bay to combine the teachings of Lupien at the time applicant's invention was made. The motivation for such a combination is to be more precise in measuring the general differences suggested by the data presented in Bay.

Bay further teaches:

- (f-h) determining whether the closing price, volume and number of transactions differs from the average of the corresponding component during each of the time periods  
(Col. 5 lines 12-27, Col. 5 lines 41-50)

Bay as mentioned does not teach measuring closing price average, nor conducting a standard deviation analysis in order to gain precise degrees of what is seen in the graphical representation of data. However, these are non-obvious modifications to the method presented in Bay as described above, under (e). Thus, a Bay-Lupien combination teaches further determining if the difference between the values of the selected trading period and the averages over the measure time periods is of a selected number of standard deviations.

The Examiner interprets the word "flag" broadly, such that the bar graphs described in Bay at (Col. 3 lines 56-65) read on the limitations of the last part of Claim 1(f) and Claim 1(h-i). As described at (Col. 4 lines 4-10), the bar graphs indicate the same information as the "flags" described by applicant, and are displayed such that patterns of aberrance are easily recognizable. See Figure 1, Item 27 as opposed to Figure 1, Item 29. Thus "flags" are automatically recorded, counted, and identified as aberrant according to a Bay-Lupien combination.

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**With regard to Claim 2**, Bay discloses that by using his method,

“trends are readily seen by comparing when comparing historical data to current data” (Col. 3 lines 33-35).

Further, the rectangular and wick-like structures comprising Bay’s graphical representation (broadly interpreted to be “flagging”) are,

“selected to provide an easily distinguishable relationship between historical average volume and current volume” (Col.3 lines 46-48)

Broadly interpreted then, Bay teaches the method further comprising:

- (j) selecting a threshold value corresponding to an expected total number of aberrant flags;
- (k) calculating the difference between the total number of aberrant flags and the threshold value; and
- (l) recording an overall financial instrument aberrant flag if the magnitude of the difference in step (k) is sufficiently large.  
(Col. 3 line 24 – Col. 4 line 19)

**With regard to Claim 3**, Bay teaches a method wherein:

the threshold value corresponds at least in part to the total number of possible aberrant flags that could be recorded in steps (f) and (g).  
(Col. 3 line 24 – Col. 4 line 19)

**With regard to Claim 4**, Bay teaches a method wherein:

the financial instrument is sold on at least one market, the at least one market has market indexes that are analogous to the closing price, the volume and the number of transactions, and wherein the selected number of standard deviations depends at least in part on standard deviations of the market indexes for the time periods. (Col. 3 lines 2-9)

**With regard to Claim 5-6**, Bay teaches that measurements of the number of trades and volume of shares traded as equivalent at (Col. 1, lines 55-60) so the Examiner interprets the applicant’s claims broadly so that measurement of volume can also encompass a measurement of number of shares traded. In this regard, Bay teaches the method wherein:

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for each time interval, an aberrant flag is recorded if the differences between the number of transactions for the selected trading session and average number of transactions, and the volume for the selected trading session and the average volume, respectively, are sufficiently large and the number of transactions and the volume of trading for the selected trading session are greater than the average numbers of transactions and the average volume, respectively.  
(Col. 3 lines 40-51)

**With regard to Claim 7**, Bay's method shows a graphical representation of the "flags" as described in Claim 1, which can be seen on a day-by-day basis over a number of different periods, or even in interval other than days. See (Col. 2 lines 40-42) and (Col. 4 lines 36-40). As such, the graphical representation depicting differences between average and current value can be seen for several different "selected trading sessions". Thus, in a broad interpretation, Bay teaches the method further comprising:

- (m) calculating an average number of aberrant flags for the financial instrument over a selected number of trading sessions immediately prior to the selected trading session, and
- (n) comparing the number of aberrant flags in the selected trading session with the average number of aberrant flags; and
- (o) identifying the existence of an overall financial instrument aberration if the comparison in step (n) results in a difference above a threshold value,

under a similar analysis as in Claim 1.

**With regard to Claim 8**, this claim is rejected under a similar analysis as in Claim 1, as the elements of the claim are essentially the same as in the prior claim.

**With regard to Claim 9**, this claim is rejected under a similar analysis as in Claim 2, as the elements of the claim are essentially the same as in the prior claim.

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**With regard to Claim 10,** Bay teaches the method wherein:

the expected variations are selected depending on the averages and standard deviations of the values of the parameters over the time periods.  
(Col. 3 line 24 – Col. 4 line 19)

**With regard to Claim 11,** Bay discloses that any variety of time periods can used when implementing his method of comparing historical data with current data. Therefore, Bay inherently teaches the method wherein:

at least one time period is at most 10 days long and at least one other time period is at least one year long. (Col. 2 lines 40-42; Col. 4 lines 36-40)

**With regard to Claim 12,** Bay teaches the method further comprising:

Reporting the presence of any differences that are aberrant.  
(Col. 4 lines 3-11)

**With regard to Claims 13-14,** these claims are rejected under similar analyses as Claims 1 and 2.

**With regard to Claims 15,** this claim is rejected under similar analysis as Claim 3.

**With regard to Claims 16,** this claim is rejected under similar analysis as Claim 4.

**With regard to Claims 17,** this claim is rejected under similar analysis as Claim 5.

**With regard to Claims 18,** this claim is rejected under similar analysis as Claim 6.

**With regard to Claims 19,** this claim is rejected under similar analysis as Claim 7.



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**With regard to Claims 20**, Bay does not expressly teach the method wherein:

the parameters includes the number of transactions, the closing price and the volume for the financial instrument in a selected trading session.

Bay does disclose, however, that measurements of the number of trades and volume of shares traded as equivalent at (Col. 1, lines 55-60) so the Examiner interprets the applicant's claims broadly so that measurement of volume can also encompass a measurement of number of shares traded, and thus Bay inherently teaches parameters including volume and number of transactions.

Although Bay does not expressly teach closing price as a parameter in a similar manner as volume and number of trades, price is obviously one of the important statistical measurements in analyzing stock performance. It would have therefore been obvious to modify Bay to include closing price as a parameter in calculating the differences described in Claim 8(f). The motivations to modify Bay is because price is an indicator of whether a stock is like to rise or fall in price along with volume, which is disclosed in Bay at (Col. 1 lines 16-18).

**With regard to Claims 21**, this claim is rejected under similar analysis as Claim 8, which is essentially the same as Claim 1.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Alpert whose telephone number is (571) 272-6738. The examiner can normally be reached on M-F 9:30-6:00. If

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attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on (571) 272-6747. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James M. Alpert  
May 12, 2005



**ALAIN L. BASHORE**  
**PRIMARY EXAMINER**